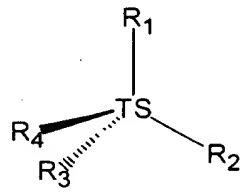
What is claimed is:

1. A tetrahedral compound having formula (I),



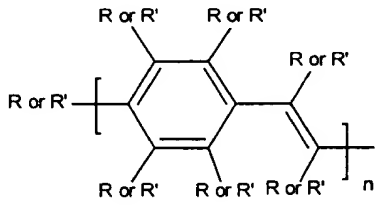
(I)

wherein TS is a tetrahedral junction unit; and R1, R2, R3 and R4 are each organic, inorganic or hybrid optoelectronic arms.

2. The tetrahedral compound of claim 1 wherein each optoelectronic arm is a semiconducting monomer, oligomer, polymer or copolymer.

3. The tetrahedral compound of claim 1, each optoelectronic arm comprising a stilbenoid chromophore.

4. The tetrahedral compound of claim 1 wherein R1, R2, R3 and R4 are optoelectronic arms corresponding to general formula II:



II

wherein R is hydrogen; R' is alkoxy alkyl, aryl, aryloxy, cyano, halide or amino; and n is an integer from 1 to 100.

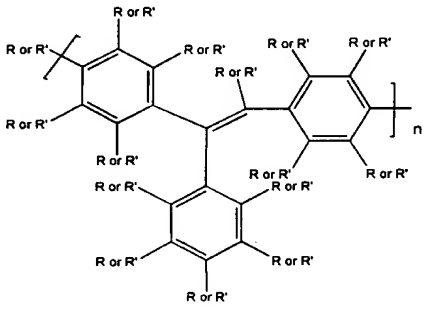
5. The tetrahedral compound of claim 4 selected from the group consisting of tetrakis(4-(3',5'-di-*tert*-butylstyryl)stilbenyl)methane, tetrakis(4-(4'-(4''-tert-butylstyryl)styryl)stilbenyl)methane, tetrakis(4-(4'-(3'',5''-dihexyloxystyryl)styryl)stilbenyl)methane, tetrakis((4-(2'5'-dioctyloxy-

4'styryl)styryl)stilbenylmethane and tetrakis((4-(2',5'-dioctyloxy-4'-(4''-(2''',5'''-dioctyloxy-4''' styryl)styryl)styryl)styryl)stilbenyl)methane.

6. The tetrahedral compound of claim 1 wherein TS is selected from the group consisting of tetraphenylmethane, tetraphenylsilane, an sp^3 hybridized carbon or silicon atom, tetraphenyladamantane, adamantane and cubane.

7. The tetrahedral compound of claim 6 selected from the group consisting of tetrastilbenyladamantane, tetrastilbenylsilane, tetrakis(4-*tert*-butylstyrylstilbenyl)adamantane and tetrakis(4-*tert*-butylstyrylstilbenyl)silane.

8. The tetrahedral compound of claim 1 wherein R1, R2, R3 and R4 are optoelectronic arms corresponding to general formula III:

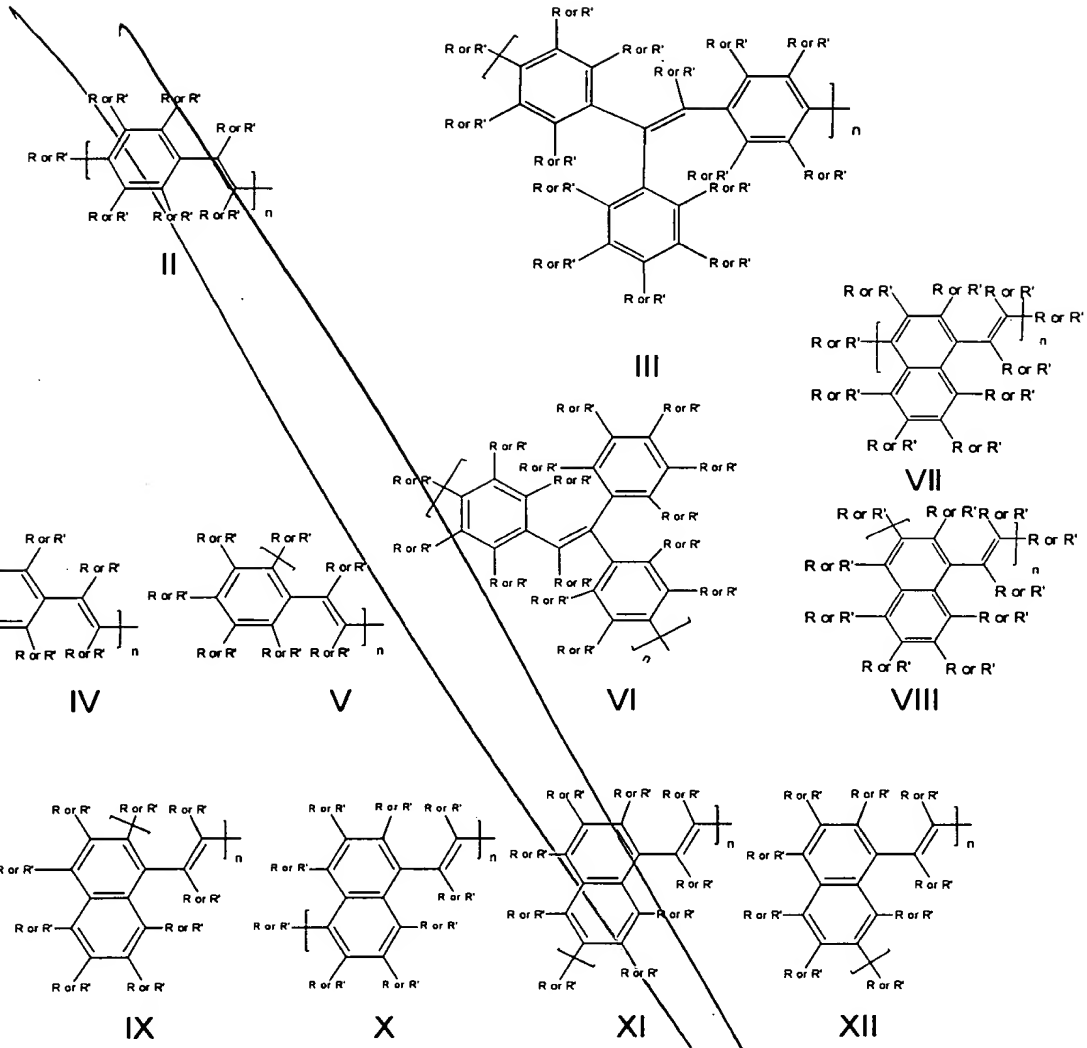


III

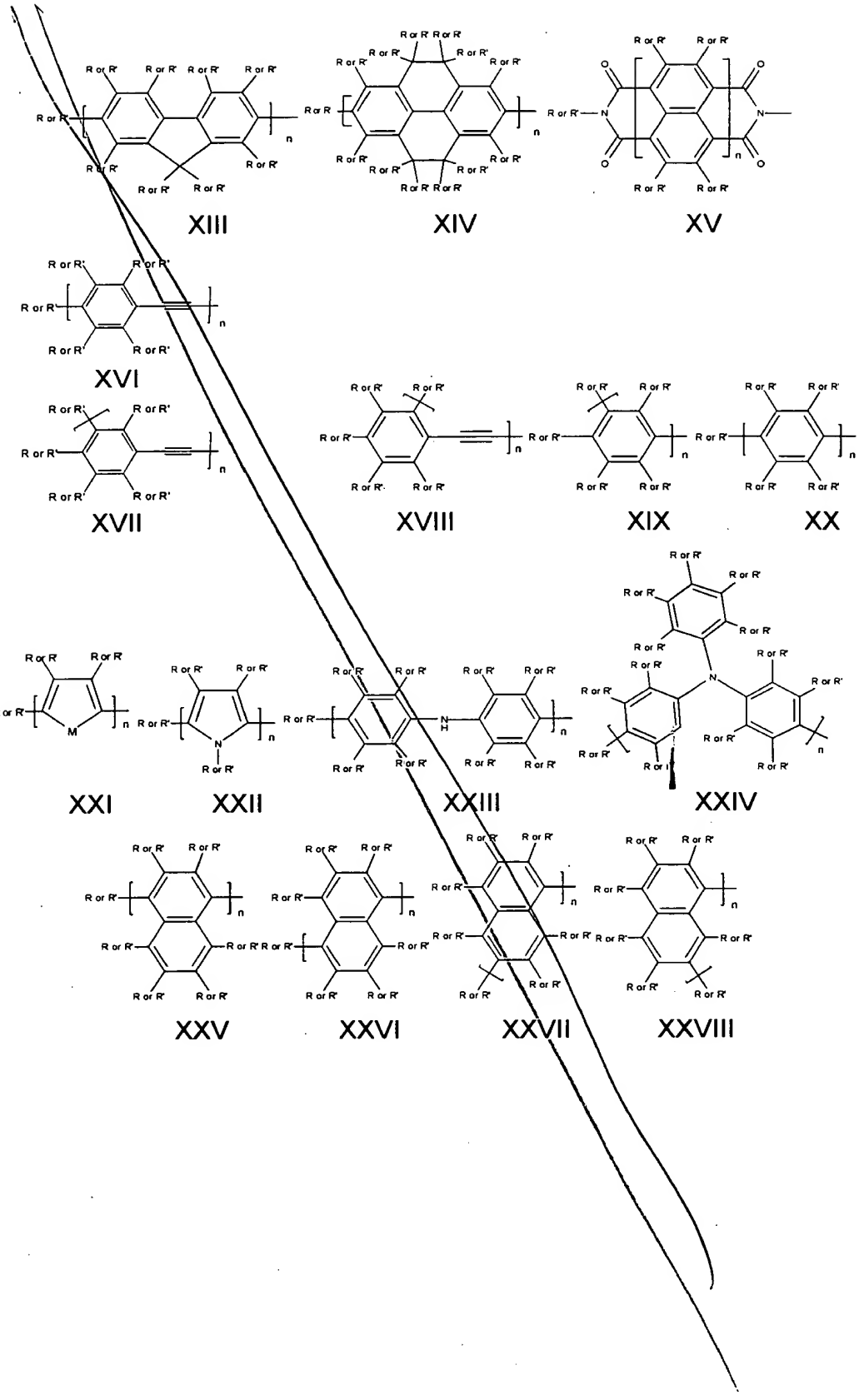
wherein R is hydrogen; R' is alkoxy alkyl, aryl, aryloxy, cyano, halide or amino; and n is an integer from 1 to 100.

9. The tetrahedral compound of claim 8 selected from the group consisting of tetrakis(4,4'-(2,2-diphenyl-vinyl)-1,1'-biphenyl)-methane and tetrakis(4,4'-(3,3-diphenylacrylonitrile)-1,1'-biphenyl)methane.

10. The tetrahedral compound of claim 1 wherein R1, R2, R3, and R4 are each independently optoelectronic arms corresponding to formula (II) through formula (LXVIII):



A' cont


XIII
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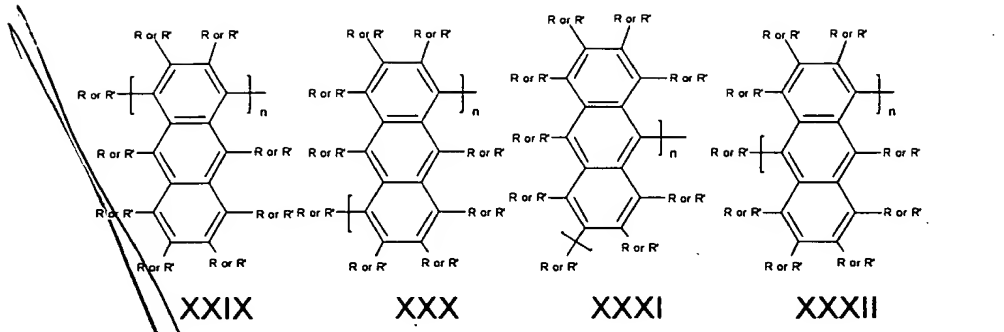
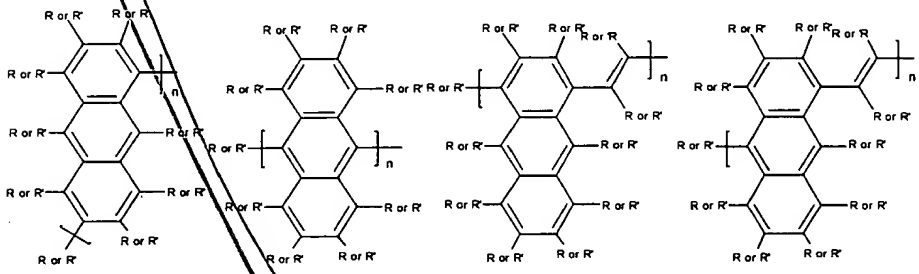
A cont

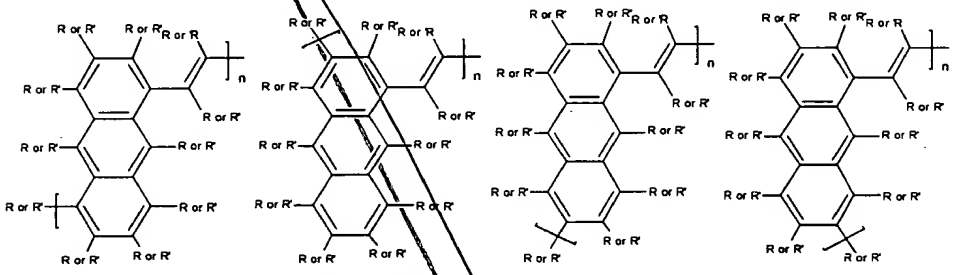


XXIX XXX XXXI XXXII



XXXIII XXXIV XXXV XXXVI

A' CONT



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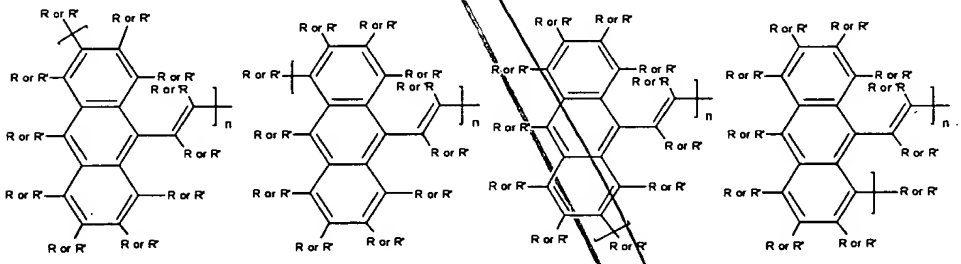

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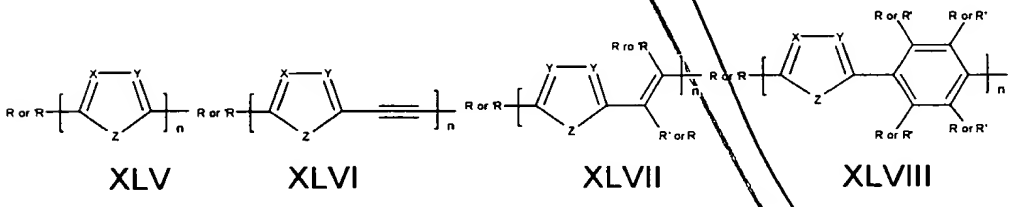

XLV XLVI XLVII XLVIII

(a) providing a tetrahedral junction molecule having four reactive functionalities;

(b) providing one or more optoelectronic chromophore units, each unit having a single complementary functionality capable of reacting with a reactive functionality; and

(c) reacting one or more the reactive functionalities with one or more complementary functionalities, thereby linking one or more optoelectronic chromophore units to the tetrahedral junction site.

16. The method of claim 15 wherein the tetrahedral junction molecule is halogenated tetraphenylmethane, tetraphenylsilane, or tetraphenyladamantane.

17. The method of claim 16 wherein the tetrahedral junction group is tetrakis(4-bromophenyl)methane, tetrakis(4-iodophenyl)methane, tetrakis(4-iodophenyl)adamantane, or tetrakis(4-bromophenyl)silane

18. The method of claim 15 wherein the optoelectronic chromophore units are conjugated organic compounds selected from the group consisting of styrene, stilbenyl derivatives, and triphenylethylene derivatives.

19. The method of claim 15 wherein the reactive functionalities are selected from the group consisting of aryl halides, olefins, acetylenes, boronic esters, and carbonyls.

20. The method of claim 15 wherein the complementary functionalities are selected from the group consisting of aryl halides, olefins, acetylenes, boronic esters, and carbonyls.

21. The method of claim 15 wherein the optoelectronic chromophore unit is selected from the group consisting of styrene 4,4'-*tert*-butylvinylstilbene, 1-(4'-tert-butylstyryl)-4-(4'-vinylstyryl)benzene, 4-(3',5'-di-*tert*-butylstyryl)styrene, 1-(3'5'-di-*tert*-butylstyryl)-4-(4'-vinylstyryl)benzene, 2,5-dioctyloxy-1-styryl-4-(4'-vinylstyryl)benzene,

1-vinyl-4-(3'5'-dihexyloxystyryl)stilbene, 1,1-diphenyl-2-(4-dihydroxyboronphenyl)-ethene and 2-(4-pinacolatoboronphenyl)-3,3-diphenylacrylonitrile.

22 A thin-film electronic device comprising the tetrahedral compound of claim 1.

23. A thin film electronic device comprising the composition of claim 14.

24. The device of Claim 22 comprising at least two layers selected from the group consisting of an electroluminescent layer, an electron transport layer, and a hole transport layer, wherein at least one of said electroluminescent layer, said electron transport layer, or said hole transport layer comprises the tetrahedral compound.